

Occupational Injuries and Illnesses and Work-related Fatalities

Technical Note

The series covers two separate programs of the Bureau of Labor Statistics—the annual Survey of Occupational Injuries and Illnesses (SOII) and the Census of Fatal Occupational Injuries (CFOI). Data from both programs are used by employers, workers, and safety and health specialists in efforts to prevent job-related injuries and illnesses and lessen the severity of those that do occur.

The SOII, in cooperation with State agencies, gathers information from employers on the number of nonfatal work-related injuries and illnesses. Each year the survey provides estimates by industry and by State of the number and incidence of workplace injuries and illnesses, and the number of injuries and illnesses that involve lost work time. The median number of days away from work and the percent distribution of days away from work by industry are also given.

For workers with injuries and illnesses involving time away from work, the survey estimates the number and percent distribution by occupation, sex, age, race, Hispanic origin, and length of service. Numbers, percent distributions, and incidence rates are also calculated by detailed nature of injury and illness, part of body affected, source of the injury or illness, and type of event or exposure leading to the incident. Cross tabulations of the worker characteristics and injury/illness circumstances are also available. The median and percent distribution of days away from work are estimated for each worker and case characteristic.

Additional information can be obtained from the annual bulletin: *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics*.

The CFOI collects a systematic, verifiable count of all

fatal work injuries as well as detailed information on how these events occurred. Because studies have shown that no single source captures all worker deaths, multiple data sources are used to identify, verify, and profile fatal work injuries. Death certificates, State and Federal workers' compensation reports, Occupational Safety and Health Administration (OSHA) fatality reports, news media, coroner, medical examiner, and autopsy reports, State motor vehicle fatality reports, and follow-up questionnaires are among the major sources used to compile the Federal Government's most complete count of job-related fatalities.

Information such as type of incident and machinery or equipment involved; nature of injury and part of body affected; occupation, age, race, and sex of the worker; and industry of the employer is collected for each fatal injury.

Summary tables are released approximately 8 months after the end of the reference year. Profiles of fatalities occurring to specific groups of workers, or for specific types of events, or for those involving certain types of equipment or machinery are also possible.

Additional information

For more detailed information on these programs, contact the Office of Safety, Health, and Working Conditions, Bureau of Labor Statistics, 2 Massachusetts Ave. NE, Room 3180, Washington, DC 20212.

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TABLE E-1. **Fatal occupational injuries to private sector wage and salary workers, government workers, and self-employed workers by industry, 1998**

Industry ¹	Fatalities		Private sector wage and salary workers ²		Government workers ³		Self-employed workers ⁴	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	6,026	100.0	4,184	100.0	598	100.0	1,244	100.0
Agriculture, forestry and fishing	831	13.8	327	7.8	—	—	504	40.5
Agricultural production - crops	378	6.3	108	2.6	—	—	270	21.7
General farms, primarily crop	249	4.1	46	1.1	—	—	203	16.3
Agricultural production - livestock	174	2.9	53	1.3	—	—	121	9.7
Livestock, except dairy and poultry	58	1.0	19	.5	—	—	39	3.1
General farms, primarily animal	54	.9	5	.1	—	—	49	3.9
Agricultural services	167	2.8	112	2.7	—	—	55	4.4
Landscape and horticultural services	110	1.8	74	1.8	—	—	36	2.9
Ornamental shrub and tree services	50	.8	31	.7	—	—	19	1.5
Fishing, hunting, and trapping	75	1.2	40	1.0	—	—	35	2.8
Commercial fishing	71	1.2	36	.9	—	—	35	2.8
Mining	146	2.4	137	3.3	—	—	9	.7
Oil and gas extraction	76	1.3	70	1.7	—	—	6	.5
Oil and gas field services	63	1.0	58	1.4	—	—	5	.4
Construction	1,204	20.0	988	23.6	33	5.5	183	14.7
General building contractors	212	3.5	165	3.9	—	—	47	3.8
Residential building construction	114	1.9	79	1.9	—	—	35	2.8
Single-family housing construction	86	1.4	56	1.3	—	—	30	2.4
Nonresidential building construction	79	1.3	72	1.7	—	—	7	.6
Nonresidential construction, n.e.c.	51	.8	45	1.1	—	—	6	.5
Heavy construction, except building ...	304	5.0	265	6.3	33	5.5	6	.5
Highway and street construction	136	2.3	103	2.5	32	5.4	—	—
Heavy construction, except highway	167	2.8	161	3.8	—	—	5	.4
Water, sewer, and utility lines	97	1.6	96	2.3	—	—	—	—
Heavy construction, n.e.c.	50	.8	45	1.1	—	—	5	.4
Special trades contractors	679	11.3	552	13.2	—	—	127	10.2
Plumbing, heating and air-conditioning	65	1.1	57	1.4	—	—	8	.6
Electrical work	114	1.9	100	2.4	—	—	14	1.1
Masonry, stonework, tile setting, and plastering	53	.9	46	1.1	—	—	7	.6
Roofing, siding, and sheet metal work	91	1.5	71	1.7	—	—	20	1.6
Miscellaneous special trade contractors	227	3.8	188	4.5	—	—	39	3.1
Structural steel erection	57	.9	52	1.2	—	—	5	.4
Special trade contractors, n.e.c.	87	1.4	67	1.6	—	—	20	1.6
Manufacturing	695	11.5	622	14.9	—	—	72	5.8
Food and kindred products	72	1.2	69	1.6	—	—	—	—
Lumber and wood products	170	2.8	124	3.0	—	—	46	3.7
Logging	123	2.0	82	2.0	—	—	41	3.3
Stone, clay, glass and concrete products	50	.8	46	1.1	—	—	4	.3
Industrial machinery and equipment ...	63	1.0	58	1.4	—	—	5	.4
Transportation equipment	61	1.0	58	1.4	—	—	—	—
Transportation and public utilities	973	16.1	794	19.0	64	10.7	115	9.2
Local and interurban passenger transportation	92	1.5	69	1.6	7	1.2	16	1.3
Taxicabs	63	1.0	48	1.1	—	—	15	1.2
Trucking and warehousing	563	9.3	485	11.6	—	—	77	6.2
Trucking and courier services, except air	537	8.9	459	11.0	—	—	77	6.2
Local trucking, without storage ...	148	2.5	122	2.9	—	—	25	2.0
Trucking, except local	327	5.4	284	6.8	—	—	43	3.5
Water transportation	54	.9	52	1.2	—	—	—	—
Transportation by air	74	1.2	60	1.4	—	—	14	1.1
Electric, gas, and sanitary services	118	2.0	80	1.9	35	5.9	—	—

See footnotes at end of table.

TABLE E-1. **Fatal occupational injuries to private sector wage and salary workers, government workers, and self-employed workers by industry, 1998** — Continued

Industry ¹	Fatalities		Private sector wage and salary workers ²		Government workers ³		Self-employed workers ⁴	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Sanitary services	53	0.9	36	0.9	14	2.3	—	—
Wholesale trade	230	3.8	202	4.8	—	—	26	2.1
Wholesale trade-durable goods	138	2.3	116	2.8	—	—	21	1.7
Wholesale trade-nondurable goods	92	1.5	86	2.1	—	—	5	.4
Retail trade	571	9.5	405	9.7	—	—	164	13.2
Food stores	135	2.2	79	1.9	—	—	56	4.5
Grocery stores	120	2.0	69	1.6	—	—	51	4.1
Automotive dealers and service stations	120	2.0	102	2.4	—	—	17	1.4
Eating and drinking places	108	1.8	87	2.1	—	—	20	1.6
Eating places	70	1.2	59	1.4	—	—	10	.8
Miscellaneous retail	101	1.7	50	1.2	—	—	51	4.1
Finance, insurance, and real estate	93	1.5	74	1.8	—	—	18	1.4
Services	827	13.7	608	14.5	70	11.7	149	12.0
Personal services	51	.8	31	.7	—	—	19	1.5
Business services	194	3.2	169	4.0	—	—	25	2.0
Miscellaneous business services ...	86	1.4	72	1.7	—	—	14	1.1
Automotive repair, services, and parking	132	2.2	84	2.0	—	—	48	3.9
Automotive repair shops	79	1.3	38	.9	—	—	41	3.3
Amusement and recreation services ..	80	1.3	55	1.3	5	.8	20	1.6
Miscellaneous amusement, recreation services	66	1.1	47	1.1	5	.8	14	1.1
Health services	74	1.2	60	1.4	10	1.7	4	.3
Educational services	80	1.3	31	.7	47	7.9	—	—
Public administration	425	7.1	—	—	425	71.1	—	—
Justice, public order, and safety	193	3.2	—	—	193	32.3	—	—
Public order and safety	190	3.2	—	—	190	31.8	—	—
Police protection	128	2.1	—	—	128	21.4	—	—
National security and international affairs	104	1.7	—	—	104	17.4	—	—
National security	101	1.7	—	—	101	16.9	—	—

¹ Classified according to the *Standard Industrial Classification Manual, 1987*.

² May include volunteers and other workers receiving compensation.

³ Includes fatalities to workers employed by governmental organizations regardless of industry.

⁴ Includes paid and unpaid family workers, and may include owners of incorporated businesses, or members of partnerships.

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of

rounding.

There were 31 fatalities for which there was insufficient information to determine a specific industry classification, though a distinction between private and government was made for each.

Dashes indicate no data reported or data that do not meet publication criteria.

n.e.c. means "not elsewhere classified."

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries

TABLE E-2. **Fatal occupational injuries by industry and event or exposure, 1998**

Industry ¹	SIC code	Total fatalities (number)	Event or exposure ² (percent)					
			Transportation incidents	Assaults and violent acts	Contact with objects and equipment	Falls	Exposure to harmful substances or environments	Fires and explosions
Total		6,026	43.6	15.9	15.6	11.6	9.5	3.4
Private industry		5,428	42.1	15.2	16.8	12.5	9.9	3.3
Agriculture, forestry and fishing		831	53.9	5.8	21.8	7.0	10.1	1.2
Agricultural production - crops	01	378	56.6	4.8	24.6	5.3	7.1	1.3
General farms, primarily crop	019	249	57.4	3.6	26.9	5.2	5.6	—
Agricultural production - livestock	02	174	51.7	11.5	22.4	4.6	8.0	—
Livestock, except dairy and poultry	021	58	50.0	13.8	19.0	—	10.3	—
General farms, primarily animal	029	54	64.8	—	24.1	—	—	—
Agricultural services	07	167	36.5	5.4	19.8	16.2	21.0	—
Landscape and horticultural services	078	110	32.7	—	23.6	19.1	20.9	—
Ornamental shrub and tree services	0783	50	18.0	—	28.0	28.0	22.0	—
Fishing, hunting, and trapping	09	75	89.3	—	—	—	6.7	—
Commercial fishing	091	71	88.7	—	—	—	7.0	—
Mining		146	28.1	3.4	32.2	11.0	9.6	15.1
Oil and gas extraction	13	76	23.7	—	18.4	14.5	14.5	25.0
Oil and gas field services	138	63	23.8	—	19.0	15.9	12.7	27.0
Construction		1,171	25.7	3.2	17.8	32.7	18.2	2.3
General building contractors	15	212	19.3	3.8	20.8	41.5	12.7	1.9
Residential building construction	152	114	17.5	6.1	20.2	41.2	14.0	—
Single-family housing construction	1521	86	17.4	8.1	19.8	43.0	10.5	—
Nonresidential building construction	154	79	17.7	—	22.8	45.6	8.9	—
Nonresidential construction, n.e.c.	1542	51	15.7	—	25.5	45.1	7.8	—
Heavy construction, except building ...	16	271	49.1	—	22.5	8.1	16.2	3.0
Highway and street construction	161	104	73.1	—	13.5	—	8.7	—
Heavy construction, except highway	162	166	34.3	—	28.3	12.0	20.5	4.2
Water, sewer, and utility lines	1623	96	29.2	—	32.3	11.5	20.8	5.2
Heavy construction, n.e.c.	1629	50	44.0	—	22.0	8.0	22.0	—
Special trades contractors	17	679	18.1	3.8	15.3	39.9	20.8	2.1
Plumbing, heating and air-conditioning	171	65	16.9	6.2	26.2	23.1	26.2	—
Electrical work	173	114	14.0	6.1	11.4	17.5	50.0	—
Masonry, stonework, tile setting, and plastering	174	53	17.0	—	13.2	52.8	11.3	—
Roofing, siding, and sheet metal work	176	91	7.7	—	—	71.4	17.6	—
Miscellaneous special trade contractors	179	227	24.7	3.1	20.3	40.1	8.4	3.5
Structural steel erection	1791	57	8.8	—	10.5	75.4	—	—
Special trade contractors, n.e.c.	1799	87	29.9	—	14.9	29.9	16.1	5.7
Manufacturing		694	29.1	9.5	35.4	8.1	10.1	7.5
Food and kindred products	20	72	37.5	8.3	26.4	8.3	16.7	—
Lumber and wood products	24	170	26.5	2.4	60.0	4.7	4.1	—
Logging	241	123	26.0	—	62.6	4.1	3.3	—
Stone, clay, glass and concrete products	32	50	44.0	12.0	18.0	10.0	14.0	—
Industrial machinery and equipment ...	35	63	22.2	23.8	39.7	—	—	—
Transportation equipment	37	61	31.1	16.4	16.4	16.4	9.8	9.8
Transportation and public utilities		909	71.4	8.9	8.4	3.2	5.8	2.0
Local and interurban passenger transportation	41	85	38.8	61.2	—	—	—	—
Taxicabs	412	63	22.2	77.8	—	—	—	—
Trucking and warehousing	42	562	79.7	4.1	8.9	2.7	3.0	1.1

See footnotes at end of table.

TABLE E-2. **Fatal occupational injuries by industry and event or exposure, 1998** — Continued

Industry ¹	SIC code	Total fatalities (number)	Event or exposure ² (percent)					
			Transportation incidents	Assaults and violent acts	Contact with objects and equipment	Falls	Exposure to harmful substances or environments	Fires and explosions
Trucking and courier services, except air	421	536	81.2	3.4	8.6	2.4	3.2	0.7
Local trucking, without storage ..	4212	147	74.8	—	14.3	3.4	4.1	—
Trucking, except local	4213	327	84.1	2.8	7.0	2.4	2.4	—
Water transportation	44	52	61.5	—	9.6	7.7	15.4	—
Transportation by air	45	74	93.2	—	—	—	—	—
Electric, gas, and sanitary services	49	83	42.2	—	12.0	6.0	28.9	8.4
Wholesale trade		228	52.2	13.2	19.7	7.5	3.1	4.4
Wholesale trade-durable goods	50	137	44.5	13.1	27.0	7.3	3.6	4.4
Wholesale trade-nondurable goods	51	91	63.7	13.2	8.8	7.7	—	4.4
Retail trade		569	28.3	57.1	4.6	5.3	2.6	1.9
Food stores	54	135	10.4	82.2	—	3.0	—	—
Grocery stores	541	120	8.3	84.2	—	3.3	—	—
Automotive dealers and service stations	55	119	47.1	37.8	7.6	4.2	—	—
Eating and drinking places	58	107	15.9	71.0	—	5.6	3.7	—
Eating places	5812	69	21.7	60.9	—	8.7	—	—
Miscellaneous retail	59	101	31.7	56.4	—	—	—	5.0
Finance, insurance, and real estate		92	39.1	33.7	—	15.2	7.6	—
Services		757	41.9	25.6	9.6	9.2	9.5	3.4
Personal services	72	50	44.0	40.0	—	—	10.0	—
Business services	73	194	45.4	21.6	7.2	10.8	11.3	3.1
Miscellaneous business services ...	738	86	41.9	32.6	4.7	7.0	12.8	—
Automotive repair, services, and parking	75	132	32.6	28.8	23.5	3.8	3.0	8.3
Automotive repair shops	753	79	13.9	34.2	29.1	5.1	—	13.9
Amusement and recreation services ..	79	75	40.0	18.7	12.0	13.3	13.3	—
Miscellaneous amusement, recreation services	799	61	39.3	18.0	11.5	11.5	16.4	—
Health services	80	64	43.8	31.2	—	10.9	9.4	—
Government ³		598	57.5	22.7	5.0	4.0	5.9	4.5
Federal government (including resident armed forces)		164	64.0	17.1	6.7	4.3	6.1	—
Public administration		134	64.2	16.4	8.2	3.7	5.2	—
National security and international affairs	97	100	69.0	10.0	11.0	—	6.0	—
National security	971	97	69.1	9.3	11.3	—	6.2	—
State government		135	64.4	23.0	—	3.0	5.9	—
Public administration		89	59.6	28.1	—	—	5.6	—
Local government		295	50.2	26.1	5.4	4.4	5.8	7.5
Public administration		198	47.5	30.8	2.5	3.5	4.5	10.6
Justice, public order, and safety	92	151	44.4	35.8	—	—	4.6	12.6
Public order and safety	922	149	44.3	35.6	—	—	4.7	12.8
Police protection	9221	101	43.6	49.5	—	—	—	—

¹ Classified according to the *Standard Industrial Classification Manual, 1987*.

² Based on the 1992 BLS Occupational Injury and Illness Classification Manual.

³ Includes fatalities to workers employed by governmental organizations regardless of industry.

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding.

There were 31 fatalities for which there was insufficient information to determine a specific industry classification, though a distinction between private and government was made for each.

Dashes indicate no data reported or data that do not meet publication criteria.

n.e.c. means "not elsewhere classified."

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries

TABLE E-3. Fatal occupational injuries by event or exposure and gender, 1998

Event or exposure ¹	Total fatalities (number)	Men		Women	
		Number	Percent	Number	Percent
Total	6,026	5,544	92.0	482	8.0
Transportation incidents	2,630	2,416	91.9	214	8.1
Highway	1,431	1,291	90.2	140	9.8
Collision between vehicles, mobile equipment	701	604	86.2	97	13.8
Re-entrant collision	14	12	85.7	—	—
Moving in same direction	118	105	89.0	13	11.0
Moving in opposite directions, oncoming	271	223	82.3	48	17.7
Moving in intersection	142	118	83.1	24	16.9
Moving and standing vehicle, mobile equipment-in roadway	39	35	89.7	4	10.3
Moving and standing vehicle, mobile equipment-side of road	14	12	85.7	—	—
Vehicle struck stationary object or equipment in roadway	18	17	94.4	—	—
Vehicle struck stationary object or equipment on side of road	288	272	94.4	16	5.6
Noncollision	373	352	94.4	21	5.6
Jack-knifed or overturned--no collision	300	281	93.7	19	6.3
Ran off highway--no collision	32	31	96.9	—	—
Struck by shifting load	9	8	88.9	—	—
Sudden start or stop, n.e.c.	4	4	100.0	—	—
Nonhighway (farm, industrial premises)	384	374	97.4	10	2.6
Collision between vehicles or mobile equipment	9	9	100.0	—	—
Vehicle, mobile equipment struck stationary object	29	29	100.0	—	—
Noncollision accident	329	319	97.0	10	3.0
Fall from moving vehicle, mobile equipment	18	18	100.0	—	—
Fell from and struck by vehicle, mobile equipment	70	68	97.1	—	—
Overturned	216	210	97.2	6	2.8
Loss of control	4	4	100.0	—	—
Struck by shifting load	3	3	100.0	—	—
Aircraft	223	208	93.3	15	6.7
Worker struck by vehicle, mobile equipment	413	370	89.6	43	10.4
Worker struck by vehicle, mobile equipment in roadway	131	111	84.7	20	15.3
Worker struck by vehicle, mobile equipment on side of road	66	60	90.9	6	9.1
Worker struck by vehicle, mobile equipment in parking lot or non-road area	199	183	92.0	16	8.0
Water vehicle	112	109	97.3	3	2.7
Collision	9	9	100.0	—	—
Fall from ship or boat, n.e.c.	49	47	95.9	—	—
Fall on ship, boat	6	6	100.0	—	—
Sinking, capsized water vehicle	37	36	97.3	—	—
Railway	60	58	96.7	—	—
Collision between railway vehicle and other vehicle	48	46	95.8	—	—
Fell from and struck by railway vehicle ...	5	5	100.0	—	—
Assaults and violent acts	960	783	81.6	177	18.4
Homicides	709	546	77.0	163	23.0
Hitting, kicking, beating	48	36	75.0	12	25.0
Shooting	569	458	80.5	111	19.5
Stabbing	61	31	50.8	30	49.2
Assaults and violent acts by person(s), n.e.c.	24	15	62.5	9	37.5
Self-inflicted injury	223	213	95.5	10	4.5
Assaults by animals	24	20	83.3	4	16.7
Contact with objects and equipment	941	913	97.0	28	3.0
Struck by object	517	503	97.3	14	2.7

See footnotes at end of table.

TABLE E-3. **Fatal occupational injuries by event or exposure and gender, 1998** — Continued

Event or exposure ¹	Total fatalities (number)	Men		Women	
		Number	Percent	Number	Percent
Struck by falling object	317	312	98.4	5	1.6
Struck by flying object	58	54	93.1	4	6.9
Struck by discharged object or substance	19	19	100.0	—	—
Struck by swinging or slipping object	30	28	93.3	—	—
Struck by rolling, sliding objects on floor or ground level	75	72	96.0	3	4.0
Caught in or compressed by equipment or objects	266	253	95.1	13	4.9
Caught in running equipment or machinery	129	122	94.6	7	5.4
Compressed or pinched by rolling, sliding, or shifting objects	62	59	95.2	3	4.8
Caught in or crushed in collapsing materials	140	140	100.0	—	—
Excavation or trenching cave-in	46	46	100.0	—	—
Other cave-in	15	15	100.0	—	—
Caught in or crushed in collapsing structure	42	42	100.0	—	—
Falls	702	675	96.2	27	3.8
Fall to lower level	623	609	97.8	14	2.2
Fall down stairs or steps	12	9	75.0	3	25.0
Fall from floor, dock, or ground level	33	32	97.0	—	—
Fall through existing floor opening	21	20	95.2	—	—
Fall through floor surface	3	3	100.0	—	—
Fall from ground level to lower level ...	3	3	100.0	—	—
Fall from ladder	111	108	97.3	3	2.7
Fall from piled or stacked material	3	—	—	—	—
Fall from roof	156	156	100.0	—	—
Fall through existing roof opening	12	12	100.0	—	—
Fall through roof surface	20	20	100.0	—	—
Fall through skylight	22	22	100.0	—	—
Fall from roof edge	47	47	100.0	—	—
Fall from scaffold, staging	97	95	97.9	—	—
Fall from building girders or other structural steel	45	45	100.0	—	—
Fall from nonmoving vehicle	48	48	100.0	—	—
Fall to lower level, n.e.c.	105	101	96.2	4	3.8
Fall on same level	51	41	80.4	10	19.6
Fall to floor, walkway, or other surface ...	34	26	76.5	8	23.5
Fall onto or against objects	8	7	87.5	—	—
Exposure to harmful substances or environments	572	549	96.0	23	4.0
Contact with electric current	334	330	98.8	4	1.2
Contact with electric current of machine, tool, appliance, light fixture	51	50	98.0	—	—
Contact with wiring, transformers, or other electrical component	84	83	98.8	—	—
Contact with overhead power lines	153	152	99.3	—	—
Contact with underground, buried power lines	9	9	100.0	—	—
Struck by lightning	21	20	95.2	—	—
Contact with temperature extremes	46	44	95.7	—	—
Exposure to environmental heat	34	34	100.0	—	—
Contact with hot objects or substances ..	10	8	80.0	—	—
Exposure to caustic, noxious, or allergenic substances	104	92	88.5	12	11.5
Inhalation of substance	48	46	95.8	—	—
Inhalation in enclosed, restricted, or confined space ²	27	27	100.0	—	—
Inhalation in open or nonconfined space	14	13	92.9	—	—
Contact with skin or other exposed tissue	4	4	100.0	—	—
Injections, stings, venomous bites	11	11	100.0	—	—
Bee, wasp, hornet sting	6	6	100.0	—	—
Ingestion of substance	20	14	70.0	6	30.0

See footnotes at end of table.

TABLE E-3. **Fatal occupational injuries by event or exposure and gender, 1998** — Continued

Event or exposure ¹	Total fatalities (number)	Men		Women	
		Number	Percent	Number	Percent
Oxygen deficiency	87	82	94.3	5	5.7
Drowning, submersion	75	72	96.0	3	4.0
Depletion of oxygen in other enclosed, restricted, or confined space ²	7	7	100.0	—	—
Fires and explosions	205	194	94.6	11	5.4
Fires--unintended or uncontrolled	116	105	90.5	11	9.5
Fires, unspecified	3	3	100.0	—	—
Fire in residence, building, or other structure	69	58	84.1	11	15.9
Forest, brush, or other outdoor fire	14	14	100.0	—	—
Ignition of clothing from controlled heat source	3	3	100.0	—	—
Explosion	89	89	100.0	—	—
Explosion, unspecified	4	4	100.0	—	—
Explosion of pressure vessel or piping ...	39	39	100.0	—	—
Other events or exposures ³	16	14	87.5	—	—

¹ Based on the 1992 BLS Occupational Injury and Illness Classification Manual.

² Includes fatalities that are not considered to be permit required confined spaces as defined by the Occupational Safety and Health Administration in its regulation of these structures.

³ Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may

include subcategories not shown separately. Percentages may not add to totals because of rounding.

Dashes indicate no data reported or data that do not meet publication criteria.

n.e.c. means "not elsewhere classified."

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries

TABLE E-4. **Fatal occupational injuries by event or exposure and location, 1998**

Event or exposure ¹	Total fatalities (number)	Location (percent)						
		Street or highway	Industrial place or premise	Public building	Farm	Private residence	Mine, quarry	Other or un-specified place ²
Total	6,026	31.3	23.4	11.9	10.6	5.7	1.2	15.8
Transportation incidents	2,630	63.9	7.7	.2	11.2	.6	.7	15.4
Highway	1,431	99.7	—	—	—	—	—	—
Collision between vehicles, mobile equipment	701	99.6	—	—	—	—	—	—
Re-entrant collision	14	100.0	—	—	—	—	—	—
Moving in same direction	118	100.0	—	—	—	—	—	—
Moving in opposite directions, oncoming	271	100.0	—	—	—	—	—	—
Moving in intersection	142	99.3	—	—	—	—	—	—
Moving and standing vehicle, mobile equipment-in roadway	39	97.4	—	—	—	—	—	—
Moving and standing vehicle, mobile equipment-side of road	14	100.0	—	—	—	—	—	—
Vehicle struck stationary object or equipment in roadway	18	100.0	—	—	—	—	—	—
Vehicle struck stationary object or equipment on side of road	288	99.7	—	—	—	—	—	—
Noncollision	373	100.0	—	—	—	—	—	—
Jack-knifed or overturned--no collision	300	100.0	—	—	—	—	—	—
Ran off highway--no collision	32	100.0	—	—	—	—	—	—
Struck by shifting load	9	100.0	—	—	—	—	—	—
Sudden start or stop, n.e.c.	4	100.0	—	—	—	—	—	—
Nonhighway (farm, industrial premises)	384	1.0	18.2	—	57.8	1.6	3.6	17.2
Collision between vehicles or mobile equipment	9	—	44.4	—	—	—	—	—
Vehicle, mobile equipment struck stationary object	29	—	24.1	—	31.0	—	13.8	31.0
Noncollision accident	329	1.2	17.0	—	62.3	1.5	1.8	15.5
Fall from moving vehicle, mobile equipment	18	—	33.3	—	38.9	—	—	22.2
Fell from and struck by vehicle, mobile equipment	70	—	12.9	—	68.6	—	—	14.3
Overturned	216	—	14.4	—	64.8	1.9	2.8	15.3
Aircraft	223	2.2	—	—	15.7	3.1	—	77.1
Worker struck by vehicle, mobile equipment	413	50.6	25.4	—	9.2	—	—	12.8
Worker struck by vehicle, mobile equipment in roadway	131	100.0	—	—	—	—	—	—
Worker struck by vehicle, mobile equipment on side of road	66	100.0	—	—	—	—	—	—
Worker struck by vehicle, mobile equipment in parking lot or non-road area	199	—	51.3	—	18.1	—	—	25.6
Water vehicle	112	—	3.6	—	—	—	—	96.4
Collision	9	—	—	—	—	—	—	100.0
Fall from ship or boat, n.e.c.	49	—	—	—	—	—	—	98.0
Fall on ship, boat	6	—	—	—	—	—	—	66.7
Sinking, capsized water vehicle	37	—	—	—	—	—	—	100.0
Railway	60	51.7	38.3	—	—	—	—	—
Collision between railway vehicle and other vehicle	48	64.6	31.2	—	—	—	—	—
Fell from and struck by railway vehicle ...	5	—	80.0	—	—	—	—	—
Assaults and violent acts	960	10.1	11.9	50.2	4.3	6.5	—	16.7
Homicides	709	12.6	9.9	54.4	2.5	6.3	—	13.8
Hitting, kicking, beating	48	8.3	12.5	56.2	—	—	—	12.5
Shooting	569	13.0	9.8	53.4	2.8	6.2	—	14.2
Stabbing	61	11.5	6.6	59.0	—	6.6	—	16.4
Assaults and violent acts by person(s), n.e.c.	24	16.7	16.7	50.0	—	—	—	—
Self-inflicted injury	223	3.6	19.7	42.6	3.6	6.7	—	23.3
Assaults by animals	24	—	—	—	62.5	—	—	29.2
Contact with objects and equipment	941	4.8	47.4	3.3	19.0	5.0	3.4	17.1

See footnotes at end of table.

TABLE E-4. Fatal occupational injuries by event or exposure and location, 1998 — Continued

Event or exposure ¹	Total fatalities (number)	Location (percent)						
		Street or highway	Industrial place or premise	Public building	Farm	Private residence	Mine, quarry	Other or unspecified place ²
Struck by object	517	5.0	45.3	2.7	18.2	5.0	1.7	22.1
Struck by falling object	317	4.1	48.3	3.5	14.8	5.4	1.9	22.1
Struck by flying object	58	—	63.8	—	6.9	—	—	22.4
Struck by discharged object or substance	19	—	47.4	—	—	—	—	26.3
Struck by swinging or slipping object	30	—	40.0	—	13.3	—	—	26.7
Struck by rolling, sliding objects on floor or ground level	75	14.7	20.0	—	37.3	—	—	21.3
Caught in or compressed by equipment or objects	266	4.9	51.5	3.4	21.1	3.0	3.4	12.8
Caught in running equipment or machinery	129	3.9	51.9	—	26.4	3.1	4.7	9.3
Compressed or pinched by rolling, sliding, or shifting objects	62	9.7	51.6	—	16.1	—	—	19.4
Caught in or crushed in collapsing materials	140	3.6	47.1	2.9	20.7	8.6	10.0	7.1
Excavation or trenching cave-in	46	8.7	69.6	—	8.7	10.9	—	—
Other cave-in	15	—	—	—	—	—	80.0	—
Caught in or crushed in collapsing structure	42	—	50.0	9.5	9.5	11.9	—	14.3
Falls	702	1.6	47.9	16.2	5.4	16.2	1.3	11.3
Fall to lower level	623	1.4	49.9	13.6	5.5	18.1	1.3	10.0
Fall down stairs or steps	12	—	50.0	41.7	—	—	—	—
Fall from floor, dock, or ground level	33	—	45.5	15.2	—	18.2	—	—
Fall through existing floor opening	21	—	42.9	—	—	23.8	—	—
Fall from ladder	111	—	34.2	22.5	7.2	24.3	—	9.0
Fall from roof	156	—	52.6	14.1	3.2	25.6	—	3.8
Fall through existing roof opening	12	—	75.0	—	—	—	—	—
Fall through roof surface	20	—	85.0	—	—	—	—	—
Fall through skylight	22	—	63.6	—	—	—	—	—
Fall from roof edge	47	—	27.7	17.0	—	48.9	—	—
Fall from scaffold, staging	97	—	62.9	14.4	—	15.5	—	5.2
Fall from building girders or other structural steel	45	—	77.8	—	—	—	—	—
Fall from nonmoving vehicle	48	—	60.4	8.3	12.5	—	—	8.3
Fall to lower level, n.e.c.	105	—	35.2	6.7	10.5	16.2	—	28.6
Fall on same level	51	—	21.6	43.1	—	—	—	27.5
Fall to floor, walkway, or other surface ...	34	—	23.5	52.9	—	—	—	17.6
Exposure to harmful substances or environments	572	7.5	33.6	11.5	11.4	15.2	.7	20.1
Contact with electric current	334	9.0	38.0	10.5	11.1	18.9	—	12.0
Contact with electric current of machine, tool, appliance, light fixture	51	—	49.0	25.5	—	13.7	—	—
Contact with wiring, transformers, or other electrical component	84	4.8	48.8	13.1	—	19.0	—	10.7
Contact with overhead power lines	153	13.7	33.3	5.9	15.0	19.6	—	12.4
Contact with underground, buried power lines	9	—	—	—	—	44.4	—	—
Struck by lightning	21	—	—	—	33.3	—	—	42.9
Contact with temperature extremes	46	10.9	37.0	—	21.7	13.0	—	15.2
Exposure to environmental heat	34	—	32.4	—	29.4	11.8	—	17.6
Contact with hot objects or substances ..	10	—	50.0	—	—	—	—	—
Exposure to caustic, noxious, or allergenic substances	104	4.8	39.4	26.0	5.8	5.8	—	17.3
Inhalation of substance	48	—	52.1	16.7	10.4	—	—	16.7
Inhalation in enclosed, restricted, or confined space ³	27	—	66.7	—	18.5	—	—	—
Inhalation in open or nonconfined space	14	—	42.9	35.7	—	—	—	—
Ingestion of substance	20	—	20.0	40.0	—	—	—	25.0
Oxygen deficiency	87	—	8.0	—	13.8	13.8	—	56.3
Drowning, submersion	75	—	—	—	14.7	13.3	—	61.3
Fires and explosions	205	3.9	55.1	8.3	10.2	7.3	—	13.2

See footnotes at end of table.

TABLE E-4. **Fatal occupational injuries by event or exposure and location, 1998** — Continued

Event or exposure ¹	Total fatalities (number)	Location (percent)						
		Street or highway	Industrial place or premise	Public building	Farm	Private residence	Mine, quarry	Other or unspecified place ²
Fires--unintended or uncontrolled	116	—	44.0	13.8	14.7	12.1	—	12.1
Fire in residence, building, or other structure	69	—	33.3	21.7	14.5	20.3	—	10.1
Forest, brush, or other outdoor fire	14	—	50.0	—	28.6	—	—	—
Explosion	89	5.6	69.7	—	4.5	—	—	14.6
Explosion, unspecified	4	—	100.0	—	—	—	—	—
Explosion of pressure vessel or piping ...	39	—	76.9	—	—	—	—	10.3
Other events or exposures⁴	16	—	25.0	31.2	—	—	—	31.2

¹ Based on the 1992 BLS Occupational Injury and Illness Classification Manual.

² Primarily includes outdoor areas such as bodies of water, woods, noncultivated fields, and parking lots.

³ Includes fatalities that are not considered to be permit required confined spaces as defined by the Occupational Safety and Health Administration in its regulation of these structures.

⁴ Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may include subcategories

not shown separately. Percentages may not add to totals because of rounding.

Dashes indicate no data reported or data that do not meet publication criteria.

n.e.c. means "not elsewhere classified."

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries

TABLE E-5. **Fatal occupational injuries to private sector wage and salary workers, government workers, and self-employed workers by State of injury, 1998**

State of injury	Fatalities		Private sector wage and salary workers ¹		Government workers ²		Self-employed workers ³	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total ⁴	6,026	100.0	4,184	100.0	598	100.0	1,244	100.0
Alabama	135	2.2	112	2.7	8	1.3	15	1.2
Alaska	43	.7	28	.7	4	.7	11	.9
Arizona	71	1.2	59	1.4	8	1.3	4	.3
Arkansas	86	1.4	59	1.4	12	2.0	15	1.2
California	617	10.2	411	9.8	89	14.9	117	9.4
Colorado	77	1.3	64	1.5	6	1.0	7	.6
Connecticut	55	.9	35	.8	8	1.3	12	1.0
Delaware	11	.2	7	.2	—	—	—	—
District of Columbia	13	.2	8	.2	—	—	—	—
Florida	384	6.4	311	7.4	36	6.0	37	3.0
Georgia	195	3.2	145	3.5	23	3.8	27	2.2
Hawaii	12	.2	8	.2	4	.7	—	—
Idaho	51	.8	30	.7	8	1.3	13	1.0
Illinois	216	3.6	151	3.6	15	2.5	50	4.0
Indiana	154	2.6	107	2.6	16	2.7	31	2.5
Iowa	68	1.1	40	1.0	5	.8	23	1.8
Kansas	98	1.6	65	1.6	8	1.3	25	2.0
Kentucky	117	1.9	68	1.6	11	1.8	38	3.1
Louisiana	159	2.6	136	3.3	13	2.2	10	.8
Maine	26	.4	21	.5	—	—	5	.4
Maryland	78	1.3	55	1.3	9	1.5	14	1.1
Massachusetts	44	.7	35	.8	—	—	7	.6
Michigan	179	3.0	135	3.2	13	2.2	31	2.5
Minnesota	84	1.4	61	1.5	—	—	20	1.6
Mississippi	113	1.9	74	1.8	19	3.2	20	1.6
Missouri	145	2.4	102	2.4	7	1.2	36	2.9
Montana	58	1.0	33	.8	5	.8	20	1.6
Nebraska	56	.9	28	.7	5	.8	23	1.8
Nevada	60	1.0	36	.9	18	3.0	6	.5
New Hampshire	23	.4	22	.5	—	—	—	—
New Jersey	103	1.7	80	1.9	6	1.0	17	1.4
New Mexico	48	.8	34	.8	5	.8	9	.7
New York (inc. N.Y.C.)	243	4.0	150	3.6	32	5.4	61	4.9
New York City	94	1.6	66	1.6	13	2.2	15	1.2
North Carolina	228	3.8	152	3.6	24	4.0	52	4.2
North Dakota	24	.4	9	.2	—	—	14	1.1
Ohio	186	3.1	136	3.3	18	3.0	32	2.6
Oklahoma	75	1.2	49	1.2	8	1.3	18	1.4
Oregon	72	1.2	59	1.4	—	—	10	.8
Pennsylvania	235	3.9	150	3.6	15	2.5	70	5.6
Rhode Island	12	.2	9	.2	—	—	—	—
South Carolina	110	1.8	69	1.6	10	1.7	31	2.5
South Dakota	28	.5	13	.3	—	—	14	1.1
Tennessee	150	2.5	84	2.0	17	2.8	49	3.9
Texas	523	8.7	368	8.8	30	5.0	125	10.0
Utah	67	1.1	50	1.2	11	1.8	6	.5
Vermont	16	.3	9	.2	—	—	6	.5
Virginia	176	2.9	125	3.0	18	3.0	33	2.7
Washington	112	1.9	77	1.8	15	2.5	20	1.6
West Virginia	57	.9	43	1.0	7	1.2	7	.6
Wisconsin	97	1.6	47	1.1	13	2.2	37	3.0
Wyoming	33	.5	22	.5	—	—	8	.6

¹ May include volunteers and other workers receiving compensation.

² Includes fatalities to workers employed by governmental organizations regardless of industry.

³ Includes paid and unpaid family workers, and may include owners of incorporated businesses, or members of partnerships.

⁴ Includes 3 fatalities that occurred within U.S. boundaries, but the specific State of incidence could not be determined.

NOTE: Totals for major categories may include subcategories not

shown separately. Percentages may not add to totals because of rounding.

Dashes indicate no data reported or data that do not meet publication criteria.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries